Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A method of processing a semiconductor wafer that reduces plasma-induced damage to the wafer, said method comprising creating a plasma in a reaction chamber and performing all of the following in the sequence indicated while maintaining said plasma in said ~~a~~ reaction chamber:

~~creating a plasma in the reaction chamber;~~

inserting the wafer into the reaction chamber;

~~supplying power to the plasma at a first level to create a process condition plasma;~~

processing the wafer in the ~~process condition~~ plasma;

~~reducing the power supplied to the plasma to a second level lower than the first level to create an idle condition plasma, thereby terminating the processing of the wafer;~~

cooling the wafer ~~in the presence of the idle condition plasma~~ by an amount sufficient to terminate processing the wafer; and

removing the wafer from the reaction chamber.

Claim 2 (previously presented): The method of Claim 1, wherein the wafer reaches a process temperature during processing and a removal temperature during removing, and wherein the removal temperature is at least between about 100°C and about 500°C below the process temperature.

Claim 3 (previously presented): The method of Claim 2, wherein the process temperature is greater than about 300°C and the removal temperature is less than about 300°C.

Claim 4 (previously presented): The method of Claim 2, wherein the removal temperature is between about 80°C and about 300°C.

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Claim 5 (previously presented): The method of Claim 1, further comprising cooling the wafer to between about 15°C and 30°C before inserting the wafer into the reaction chamber.

Claim 6 (previously presented): The method of Claim 1, wherein processing the wafer comprises the deposition of silicon dioxide.

Claim 7 (previously presented): The method of Claim 6, wherein the wafer reaches a temperature between about 275°C and 325°C during processing.

Claim 8 (previously presented): The method of Claim 1, wherein processing the wafer comprises the deposition of fluorine doped silicon dioxide.

Claim 9 (previously presented): The method of Claim 8, wherein the wafer reaches a temperature between about 325°C and 375°C during processing.

Claim 10 (previously presented): The method of Claim 1, wherein processing the wafer comprises the deposition of silicon dioxide for shallow trench isolation.

Claim 11 (previously presented): The method of Claim 10, wherein the wafer reaches a temperature between about 400°C and 550°C during processing.

Claim 12 (previously presented): The method of Claim 1, wherein processing the wafer comprises the deposition of phosphorus-doped silicon dioxide.

Claim 13 (previously presented): The method of Claim 12, wherein the wafer reaches a temperature between about 400°C and 550°C during processing.

Claim 14 (previously presented): The method of Claim 1, wherein processing the wafer comprises the etching of photoresist.

Claim 15 (previously presented): The method of Claim 1, wherein cooling the wafer lasts between about 2 seconds and about 30 seconds.

Claim 16 (previously presented): The method of Claim 1, wherein cooling the wafer to a removal temperature comprises blowing a gas over the wafer.

Claim 17 (previously presented): The method of Claim 1, wherein the idle condition plasma is maintained during inserting the wafer.

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Claim 18 (original): The method of Claim 1, wherein the wafer comprises a gate dielectric layer.

Claim 19 (previously presented): The method of Claim 1 wherein the idle condition plasma is maintained during the step of removing the wafer from the reaction chamber.

Claim 20 (previously presented): The method of Claim 19 wherein the idle condition plasma is extinguished during the step of removing the wafer from the reaction chamber.

Claim 21 (canceled)

Claim 22 (canceled)

Claim 23 (previously presented): The method of Claim 1 wherein inserting the wafer is performed before creating the plasma.

Claim 24 (previously presented): The method of Claim 1 wherein inserting the wafer is performed after creating the plasma.

Claim 25 (new): The method of Claim 1 wherein cooling the wafer comprises reducing the power supplied to the plasma.

Claim 26 (new): The method of Claim 25 wherein reducing the power comprises reducing the source RF power supplied to the plasma.

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